

lations were depressed. Results indicate that researchers addressing the potential impacts of human activities on raptors need to monitor prey populations and interpret their data in reference to the relative availability of prey.

USE OF ARTIFICIAL BURROWS IN THE STUDY OF WESTERN BURROWING OWL NESTING BIOLOGY

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We used artificial burrows to study parental care in burrowing owls (*Speotyto cunicularia*) during the 1993 breeding season on the New Mexico State University campus in Las Cruces, New Mexico. Four artificial burrows installed as direct replacements of natural burrows were adopted and nesting attempted in each. Nine other artificial burrows installed in the vicinity of natural burrows were not used. Clutch size in the four artificial nests ranged from 6 to 11 eggs; the productivity of these nests, however, was very low, with only 3 of 34 eggs (about 9%) resulting in fledged young. The death of two young and then predation on the remaining young in one nest resulted in 100% failure of that nest. Loss of the male resulted in the abandonment of a total of 14 eggs prior to hatching in two other nests. The average number of fledglings seen at all active burrows ($N = 21$) on the study sites was 2 (range 0 to 5 young per pair). We were surprised that no owls occupied the nine artificial burrows placed in what seemed to be prime habitat. These burrows will continue to be monitored to determine if they are eventually used. If they are not, then the efficacy of artificial burrows in reattracting burrowing owls to certain areas would certainly be in doubt. The use of artificial burrows to improve or provide human access to already existing burrows, has, in contrast, worked quite well.

GOSHAWK REPRODUCTION AND FOREST MANAGEMENT IN NORTHERN ARIZONA: A REANALYSIS

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Crocker-Bedford reported that tree harvests in northern Arizona during the late 1970s and early 1980s caused a significant decline in northern goshawks (*Accipiter gentilis*). Recent data (1991–1993) did not support his contention. We reviewed his study design, data, and his interpretation of his results and then compared his 1985–1987 occupancy and nest productivity data to data collected from the same territories in 1988–1993. We concluded

that his experimental design and critical assumptions were sufficiently faulted to render his determination equivocal. We found he could not demonstrate cause and effect between tree harvesting and goshawk demographics as he contended. The fact that we could not find a significant pattern of change in the number of control and treatment territories that were occupied or unoccupied through 1993 supported our conclusions.

YEAR-ROUND MOVEMENTS OF SATELLITE-TRACKED GOLDEN EAGLES BREEDING IN QUEBEC

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As part of an ecological study of golden eagles (*Aquila chrysaetos*) breeding on the east coast of Hudson Bay, Quebec where construction of a hydroelectric complex is planned, a radiotelemetry program was initiated in June 1992 to study their year-round migratory movements. Five adult and a juvenile eagle were fitted with lightweight satellite transmitters. While the fates of two eagles remain unknown, four adults left their breeding area in mid- to late-October and migrated to the United States using different routes. One eagle flew through Ontario, crossed the Great Lakes, and spent the winter in Michigan. The other three crossed Quebec and followed the Appalachian Mountains. One remained in southern Pennsylvania, one wintered in West Virginia, and the other eagle wandered as far south as Alabama. After three to four months, the Pennsylvania and Alabama eagles headed north using the same routes back to their former breeding territories. The Virginia bird disappeared for reasons unknown, while the Michigan eagle wandered along the western coast of James Bay before heading back to its former territory. Movements of these eagles are discussed in the context of prey, weather, terrain and historical records for eastern North America.

ATTRACTION TO DAMS AND THEIR USE BY BALD EAGLES IN NORTH AND SOUTH CAROLINA

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Mid-winter surveys of bald eagles (*Haliaeetus leucocephalus*) were conducted from 1983–93. Flights were made along the Yadkin, Pee Dee, and Catawba Rivers in Piedmont North and South Carolina in fixed-wing planes or helicopters. Of 117 eagles seen, more were found just below dams ($N = 103$; 88.0%) than in other parts of the reservoirs and rivers ($N = 14$; 12.0%) ($\chi^2 = 67.701$, $df = 1$, $P < 0.0001$). Additional year-round observations support these